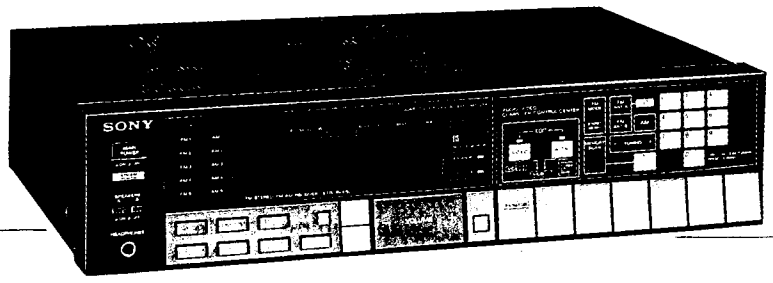
SONY®

FM STEREO/FM-AM RECEIVER

STR-AV460

OPERATING INSTRUCTIONS

Before operating the unit, please read this manual thoroughly.
This manual should be retained for future reference.



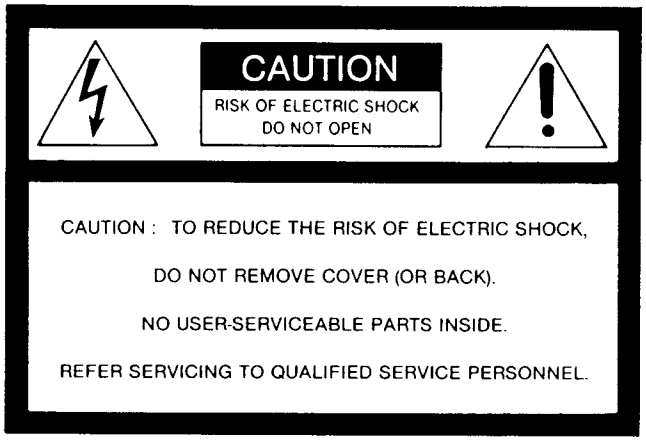
OWNER'S RECORD

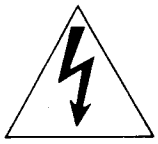
The model and serial numbers are located at the rear. Record the serial number in the space provided below. Refer to these numbers whenever you call upon your Sony dealer regarding this product.

Model No. STR-AV460 Serial No. _____

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.


CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

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FEATURES

The STR-AV460 is a combined receiver and audio/video control center, which makes it possible to connect to your audio system one hi-fi video cassette recorder for both playback and recording and another for playback.

- The ASP (Audio Signal Processor) IC developed by Sony can digitally control the tone and volume settings, and permits electronic program source selection with a single touch of a key. The ASP IC also offers great flexibility — an acoustic memory function, an ability to store and recall three sets of tonal adjustments and a volume fade-in function, an ability to set the volume to the minimum level when the power is turned on and automatically increase it to a previously set level.
- A quartz-locked digital synthesizer system with a sophisticated Phase-Locked Loop (PLL) circuit allows extremely precise tuning of FM and AM stations with an electronic digital readout on the frequency display. A total of 10 stations can be preset and scanned.
- The optional RM-S760 remote commander allows you to control all components connected to the receiver from a distance.
- CATV cable can be connected directly to the receiver, making FM simulcast program reception easier.
- Video tapes can be edited from the hi-fi video cassette recorder connected to the VIDEO 2 jacks to the hi-fi video cassette recorder connected to the VIDEO 1 jacks. While video tapes are being edited, other program sources can be enjoyed. Audio dubbing is also possible.

PRECAUTIONS

On safety

- Operate the unit only on 120 V ac, 60 Hz.
- Should any liquid or solid object fall into the cabinet, unplug the unit and have it checked by qualified personnel before operating it any further.
- Unplug the unit from the wall outlet if it is not to be used for an extended period of time. To disconnect the cord, pull it out by grasping the plug. Never pull the cord itself.
- One blade of the plug is wider than the other for the purpose of safety and will fit into the power outlet only one way. If you are unable to insert the plug fully into the outlet, contact your dealer.

On installation

- Do not install the unit in a location near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- Good air circulation is essential to prevent internal heat build-up in the unit. Place the unit in a location with adequate air circulation. Do not place the unit on a soft surface, such as a rug that would block the ventilation holes on the bottom.
- Do not place anything on top of the cabinet. The top ventilation holes must be unobstructed for the proper operation of the unit and to prolong the life of its components.
- Allow at least 15 cm (6 inches) of space behind the unit so that the position of the layout-free AM antenna can be adjusted.

On operation

- Before making program source connections, be sure to turn the power switch off and unplug the unit.
- When the unit is not used, turn the power off, to conserve energy and to extend the useful life of your unit.

On cleaning the cabinet

Clean the cabinet, panel and controls with a soft cloth lightly moistened with mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent such as alcohol or benzine.

On repacking

Do not throw away the carton and the packing material. It makes an ideal container to transport the unit in. When shipping the unit for repair work or to another location, repack it as illustrated on the carton box.

To change the AM tuning interval

The AM tuning interval is preset at the factory to 10 kHz to match the frequency allocation system of your country.

If you use the receiver where the frequency allocation system is based on a 9 kHz interval, change the interval as follows.

1 Press the MAIN POWER and SYSTEM POWER switches to turn on the unit.
2 Tune in any AM station.
3 Press the MAIN POWER switch to turn it off.
4 While pressing the "+" TUNING key, press the MAIN POWER switch to turn it on.

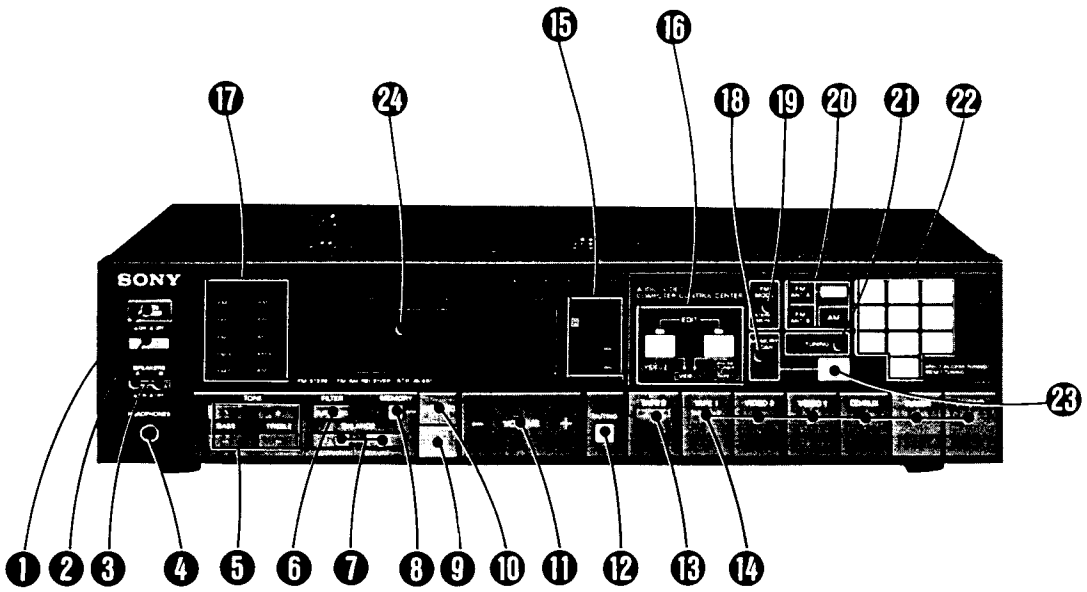
The AM tuning interval has been set to 9 kHz. To reset the interval to 10 kHz, follow the same procedure.

Note

When the interval is changed, all preset stations which you have memorized to the number keys in addition to the acoustic memory previously set will be erased. After changing the interval, be sure to preset the stations and set the acoustic memory again.

For detailed safety precautions, see the "IMPORTANT SAFEGUARDS" leaflet.

LOCATION AND FUNCTION OF CONTROLS



Amplifier section

❶ MAIN POWER switch
Depress this switch (⎍ ON) to turn the mains power on. The STANDBY indicator will light up. Press it again (⎍ OFF) to turn it off.
If the MAIN POWER switch has not been turned on, you cannot turn the receiver and connected components on by pressing the SYSTEM POWER switch or operate them with the optional RM-S760 remote commander.

❷ SYSTEM POWER switch
Press this switch to turn the receiver and connected components on and off. When this switch is pressed, the function selected last or the last station to be received will be displayed.
You can operate the switch from a distance with the optional RM-S760 remote commander.

❸ SPEAKERS selector
Select speaker system A or B, or both.

❹ HEADPHONES jack
Accepts any low or high impedance stereo headphones. For headphone monitoring only, keep both SPEAKERS selector OFF.

❺ BASS and TREBLE TONE control keys
Control the prominence of bass and treble response.

❻ SUBSONIC FILTER key
Press this key to reduce unwanted subsonic noise components created by warped records, etc. The SUBSONIC indicator will appear in the display window and the filter will cut off any input signals below 15 Hz at a 6 dB-per-octave rate. Press this key again to disengage it.

❼ BALANCE control keys
Governs the amount of sound coming from each paired speaker to get optimum stereo effect.
Pressing the (R) key will decrease the left channel volume, and pressing the (L) key will decrease the right channel volume.

❽ MEMORY key
When this key is pressed, the number of the acoustic memory key will flash and the three acoustic settings can be stored.

❾ FLAT key
Press this key to disengage the acoustic setting for a flat frequency response.

❿ ACOUSTIC key
After pressing MEMORY key, press this key to store the tone settings. Once they have been set, you can recall these acoustic settings instantly.

⑪ VOLUME control key
Regulates the overall sound level. Pressing its right-side (+) will increase the sound level, and pressing its left-side (–) will decrease it.

⑫ MUTING key
Press this key to attenuate the sound level by ∞. The MUTING indicator will light up. Press again to disengage the key and you can restore the same listening level as before. You will find this function useful when lowering the tonearm onto a record or when you answer the phone.

⑬ TAPE 2 (MONITOR) key
Press this key to listen to a tape deck connected to the TAPE 2 inputs on the rear panel. The indicator will light up. When listening to program sources other than a taped program of a tape deck connected to the TAPE 2 inputs, press this key again to disengage it. The indicator goes out.

⑭ Function select keys
Press one of these keys to select a desired program source other than a taped program of a tape deck connected to TAPE 2 inputs.
The associated indication of the pressed key will appear in the display window.
PHONO: For record programs (connected to PHONO inputs).
TUNER: For broadcasting programs.
When pressing this key, the frequency of the last station to be received will appear.
CD/AUX: For compact disc or auxiliary programs (connected to CD/AUX inputs).
VIDEO 1: For video programs of VCR 1 (connected to VIDEO 1 inputs).
VIDEO 2: For video program of VCR 2 (connected to VIDEO 2 inputs).
TAPE 1 (TAPE 1 → 2): For taped programs of tape deck 1 (connected to TAPE 1 inputs).

⑮ Indicators for remote control
REMOTE SENSOR: Receives the infraredray command of the remote commander.
STANDBY indicator: Lights when the mains power is turned on. The receiver is in the standby mode for remote control operation.
RECEIVED indicator: Blinks when a key on the RM-S760 remote commander is pressed.

⑯ EDIT keys
AUDIO: For recording an audio program source selected by the function select key on a video tape or adding that source to a video tape while editing from VCR 2 to VCR 1. The indicator will light up.
VIDEO: For editing a video tape from VCR 2 to VCR 1. The indicator will light up.

Tuner section

⑰ STATION INDEX (station identification) windows
Station labels (supplied) identifying stations memorized to the number keys can be placed in these windows.

⑱ MEMORY SCAN key
Press to scan automatically the stations memorized on the number keys.

⑲ FM MODE key
When receiving a very weak FM station or a noisy FM program, press this key. (The STEREO indicator illumination will go out.) There is no stereo effect but the reception will be more stable and noise will be reduced. Press it again to return to the stereo mode. The mode will automatically return to the stereo mode when the frequency is changed.

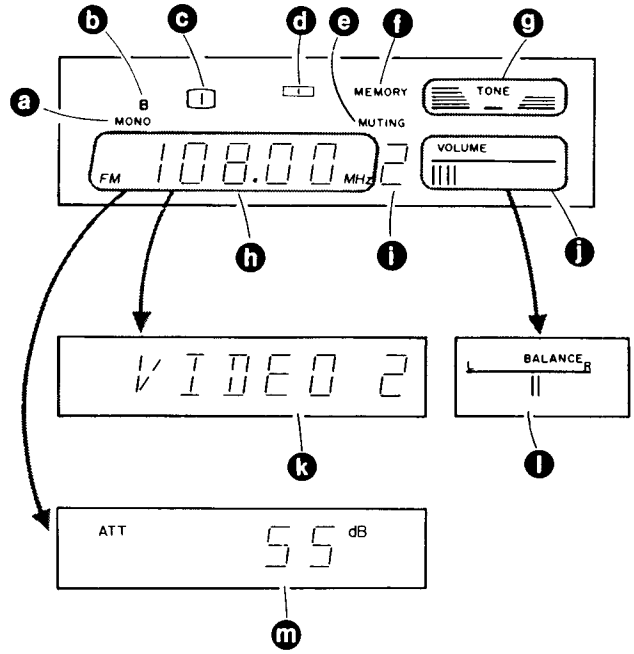
⑳ Band/antenna select keys
Press the AM key to receive AM broadcast.
Press the FM ANT-A key to receive FM broadcast using the FM antenna connected to the CATV ANT-A connector or cable TV programs when the CATV cable is connected. CATV indicator lights up.
Press the FM ANT-B key to receive FM broadcast using the FM antenna connected to the FM ANT-B connector.

㉑ TUNING key
Press either + or – of this key to scan the frequency coverage.
For FM reception, this key serves as a sweep tuning key and for AM reception as a manual tuning key. For details, refer to pages 16 and 17.

㉒ DIRECT ACCESS TUNING/PRESET TUNING keys (number keys)
For direct access tuning (the number keys serve as DIRECT ACCESS TUNING keys): After pressing the FM or AM band select key, input the frequency of the desired station by pressing these keys.
For preset tuning (the number keys serve as PRESET TUNING keys): After pressing the MEMORY PRESET key, press to preset the station being received. Also press to call up a station which has been memorized in this way.

㉓ MEMORY PRESET key
To memorize the frequency of a station, when the station is received, press this key, then press the number key.

㉔ **Display window**



ⓐ **FM MODE indicator**
When the FM MODE key is pressed, the MONO indication will appear.

ⓑ **FM ANTENNA indicator**
When you press the FM ANT-A key, A indication will appear. When you press the FM ANT-B key. B indication will appear.

ⓒ **VIDEO MONITOR indicator**
The indication of a selected function key – 1 or 2 – will appear.

ⓓ **ACOUSTIC indicator**
With each press of the ACOUSTIC key to call up the acoustic setting memory, the number of the memorized key will appear.

ⓔ **MUTING indicator**
Lights up when you press the MUTING key.

ⓕ **MEMORY indicator**
Lights up when you press the MEMORY PRESET key.

ⓖ **TONE indicator**
The bars move up and down, depending on the tone control settings, graphically showing the tone control characteristics.
A straight bar graph indicates a flat frequency response.

ⓗ **Band/frequency display window**
The frequency being received is displayed here.

ⓘ **Preset number key indicator**
When a number key is pressed, its number will appear here. When the MEMORY SCAN key is pressed, the numbers of the number key will change in sequence.

ⓙ **VOLUME indicator**
The volume level is indicated by the number of the vertical bars.

ⓚ **Function indicator**
When any of the function select keys other than TUNER and TAPE 2 (MONITOR) is pressed, the corresponding indication will appear in the band/frequency display window.

ⓛ **BALANCE indicator**
When you press the (L) or (R) BALANCE control key, the VOLUME indicator disappears and the BALANCE indicator appears. The two parallel bars move between L and R on the indicator to indicate the relative strength of the volume at the left and right speakers. A few seconds after you stop pressing the BALANCE control key, the display automatically changes back to the VOLUME indicator.

ⓜ **ATT (attenuation) indicator**
When you press the VOLUME key, the band/frequency/function display disappears and the attenuation level which has been set by the (+) and (–) VOLUME keys is displayed in dB. Pressing the (+) VOLUME key will decrease the attenuation level.

Rear panel

㉕ **ANTENNA terminals**

AM and ⏚ (antenna ground) terminals: Connect the supplied layout-free AM external ferrite-bar antenna.

CATV ANT-A IN connector (F type): Connect an FM external antenna or a CATV cable.

CATV ANT-A OUT connector (F type): When a CATV cable is connected to the IN connector, connect to the VHF IN of the VCR or of the TV tuner. When an FM external antenna is connected to the IN connector, this connector can feed signals to another FM tuner.

FM ANT-B connector (F type): For FM reception connect an FM external antenna here.

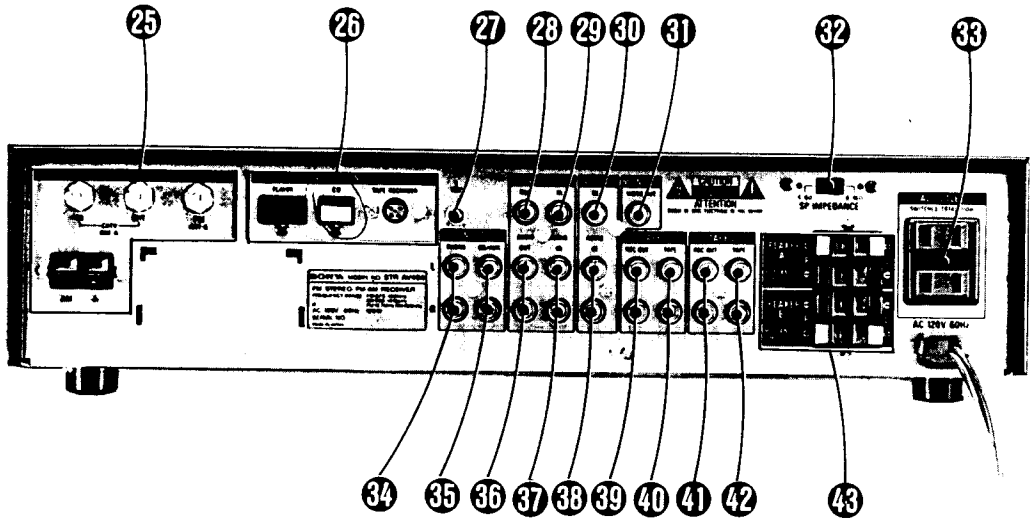
㉖ **REMOTE CONTROL connectors**

By connecting the remote control cords supplied with the optional RM-S760 remote commander, you can remotely control some functions of the receiver and the connected equipment.

PLAYER connector (6 pin): Connect to the remote control jack of a turntable.

Control S connector (4 pin): Connect to the remote control connector of a CD player or other audio component equipped with a 4-pin control S connector.

TAPE RECORDER (5 pin): Connect to the remote control connector of a tape deck.



㉗ ⏚ (phono ground) terminal

㉘ VIDEO 1 OUT jack (phono jack)
Accepts the video input of a VCR.

㉙ VIDEO 1 IN jack (phono jack)
Accepts the video output of a VCR.

㉚ VIDEO 2 IN jack (phono jack)
Accepts the video output of a TV tuner or a playback VCR.

㉛ MONITOR output (phono jack)
Accepts the video input of a component TV.

㉜ SP IMPEDANCE (speaker impedance) selector
When connecting one pair of speaker systems with an impedance of 4 - 6 ohms, set to 4 - 6 ohm position or with an impedance of 8 - 16 ohms, set to 8 - 16 ohm position. When connecting two pairs of speaker systems, set to the lower impedance position.

㉝ AC OUTLETS (SWITCHED)
These are used to power other audio component whose power consumption is less than the wattage indicated on the AC OUTLET.

㉞ PHONO inputs (phono jack)
Accept the outputs of a turntable system.

㉟ CD/AUX (compact disc/auxiliary) inputs (phono jack)
Accept the outputs of a compact disc player or input sources such as a playback only tape deck.

㊱ VIDEO 1 AUDIO OUT jacks (phono jack)
Accept the audio inputs of a VCR for recording the audio program source onto the video tape.

㊲ VIDEO 1 AUDIO IN jacks (phono jack)
Accept the audio outputs of a VCR for listening to the recorded video tape.

㊳ VIDEO 2 AUDIO IN jacks (phono jacks)
Accept the audio outputs of a TV tuner or a playback VCR.

㊴ TAPE 1 REC OUT jacks (phono jack)
Accept the line inputs of a tape deck 1 for tape recording.

㊵ TAPE 1 TAPE inputs (phono jack)
Accept the line outputs of a tape deck 1 for playing back a tape.

㊶ TAPE 2 REC OUT jacks (phono jacks)
Accept the line inputs of tape deck 2 for tape recording.

㊷ TAPE 2 TAPE inputs (phono jacks)
Accept the line outputs of tape deck 2 for playing back a tape.

㊸ SPEAKER A, B connectors
For connecting a speaker system or two pairs of speaker systems. System A and system B can be selected by means of the front panel SPEAKERS selectors.

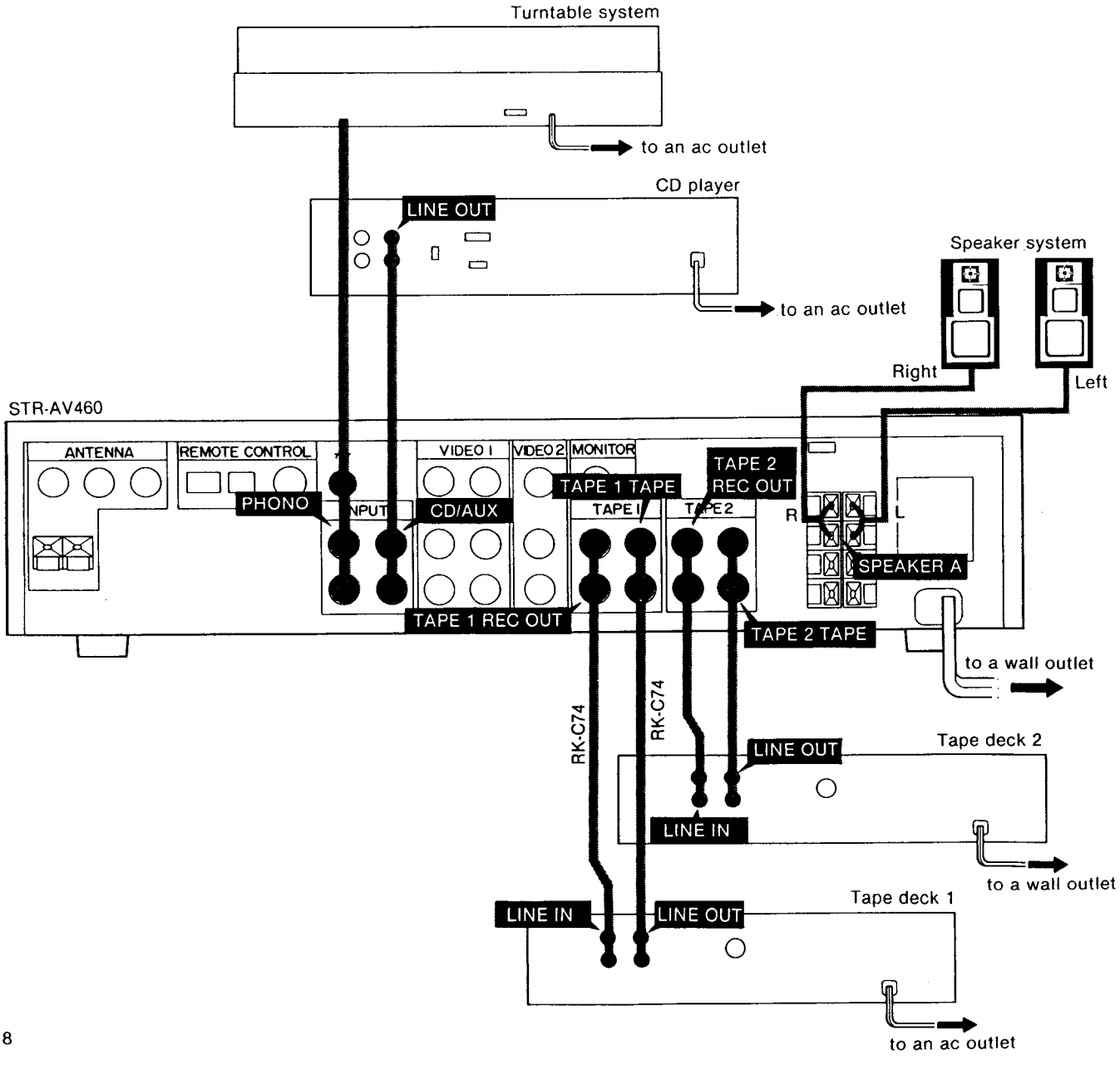
Connection notes

- The power cord should be connected last of all, first making sure that the MAIN POWER switch is turned off.
- When connecting program sources or tape recorders, note that the red jacks of the receiver are for right-channel audio connections, the white jacks for left-channel audio connections and yellow jacks for video connections.
- The cable connectors should be fully inserted into the jacks. A loose connection may cause hum and noise.

CONNECTION DIAGRAM

Before connection, be sure to set the MAIN POWER switch to OFF (⏻).

AUDIO SYSTEM CONNECTION

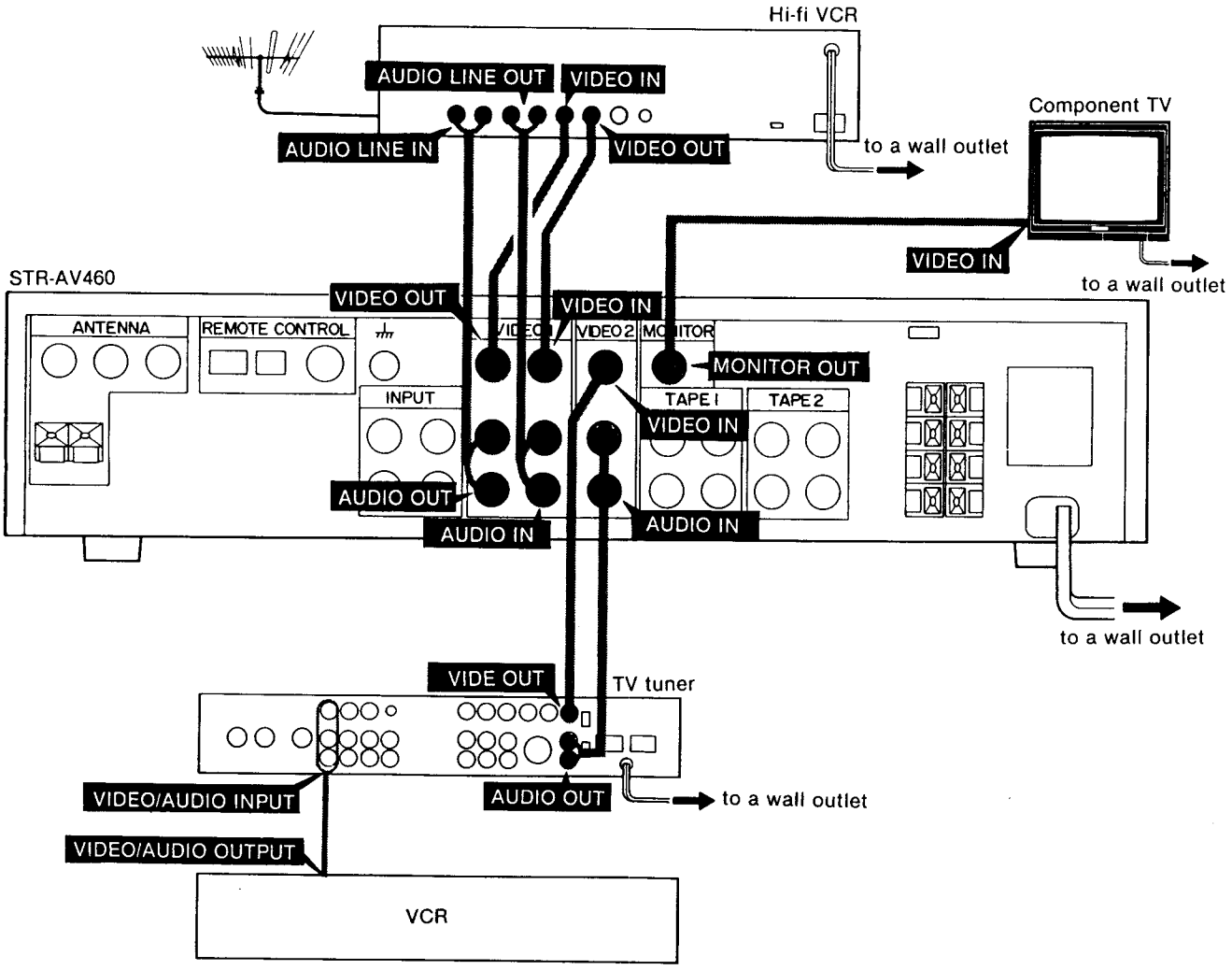


VIDEO SYSTEM CONNECTION

Before making connections, refer to the instruction manual of the VCR.

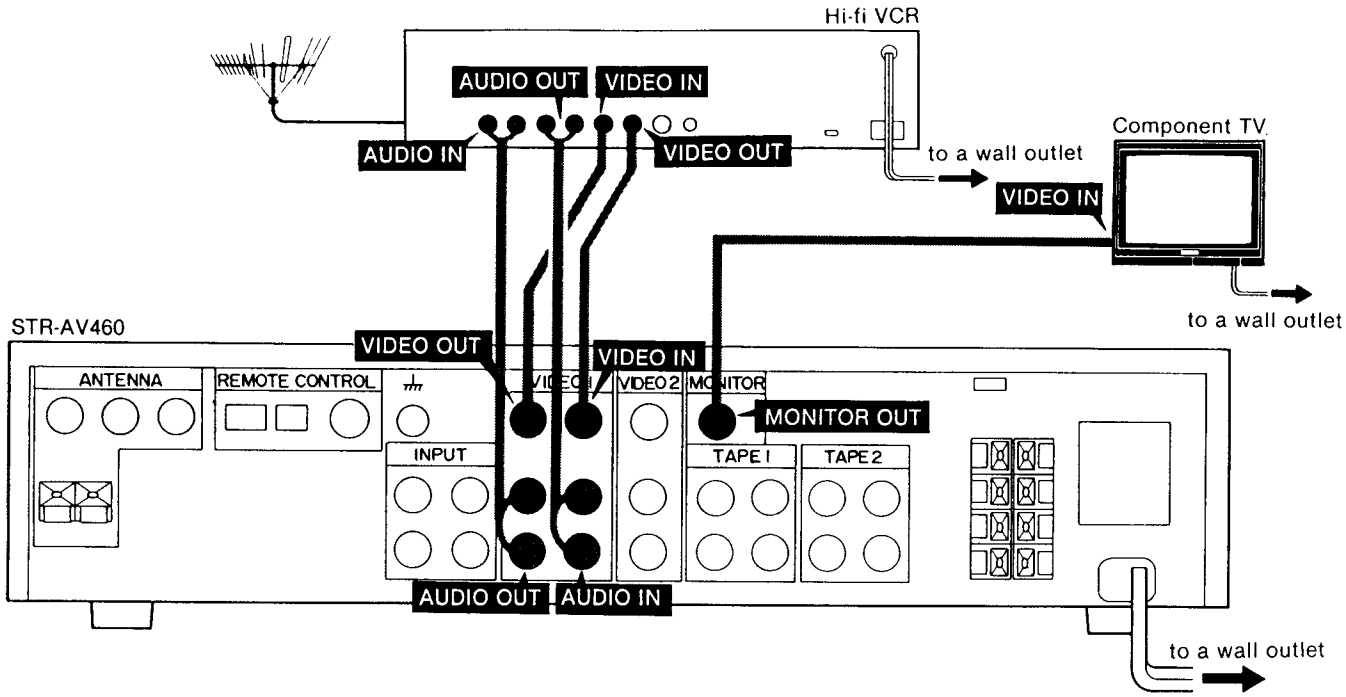
Hi-fi VCR + **Component TV** + **TV tuner**

Connect a hi-fi VCR to VIDEO 1 outputs/inputs for recording and playback.
TV tuner has plural video inputs and outputs used for enhanced system connection of video equipment, so that you can enjoy various video programs.

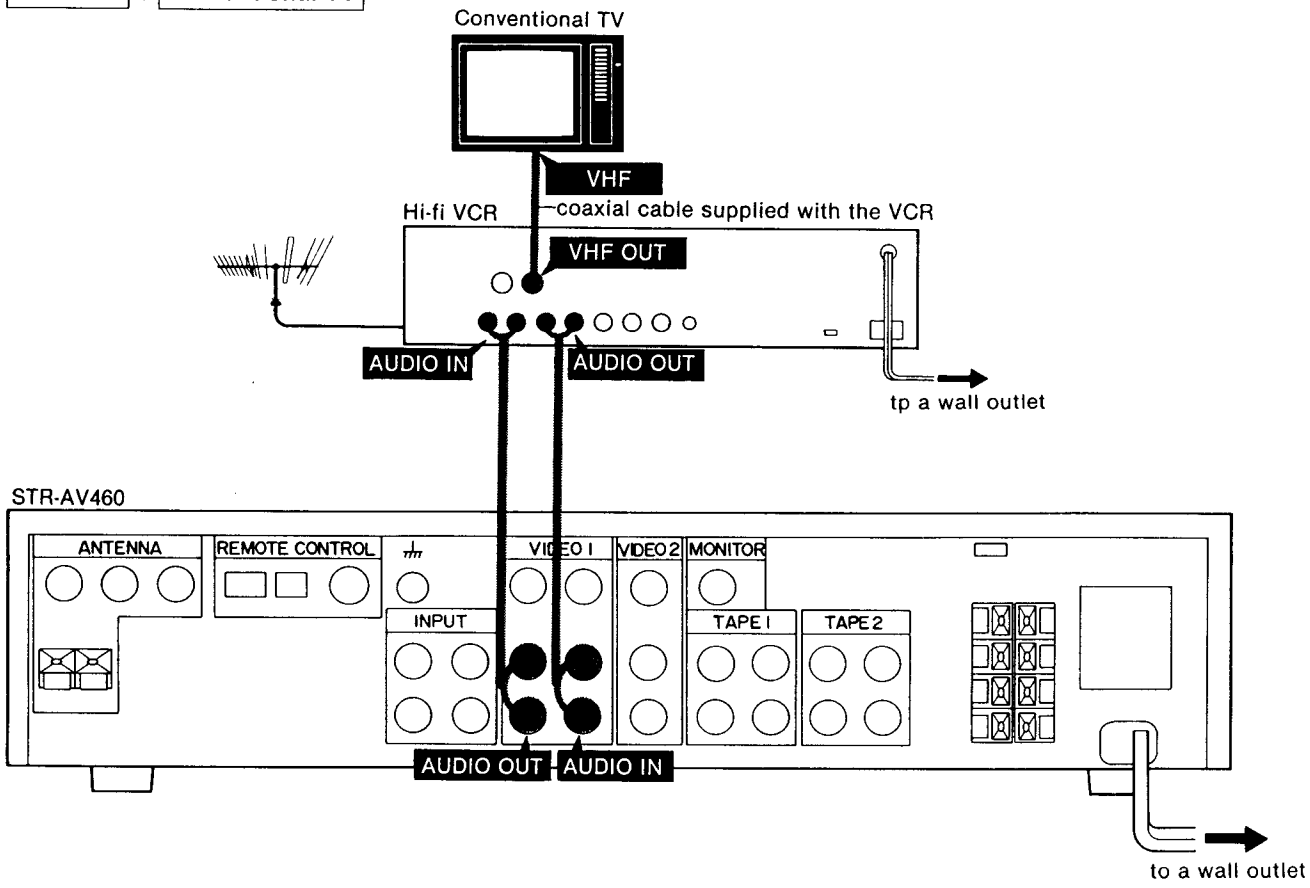


Note
When connecting a second VCR without a TV tuner, connect it to the VIDEO 2 jacks of the STR-AV460.

Hi-fi VCR + Component TV

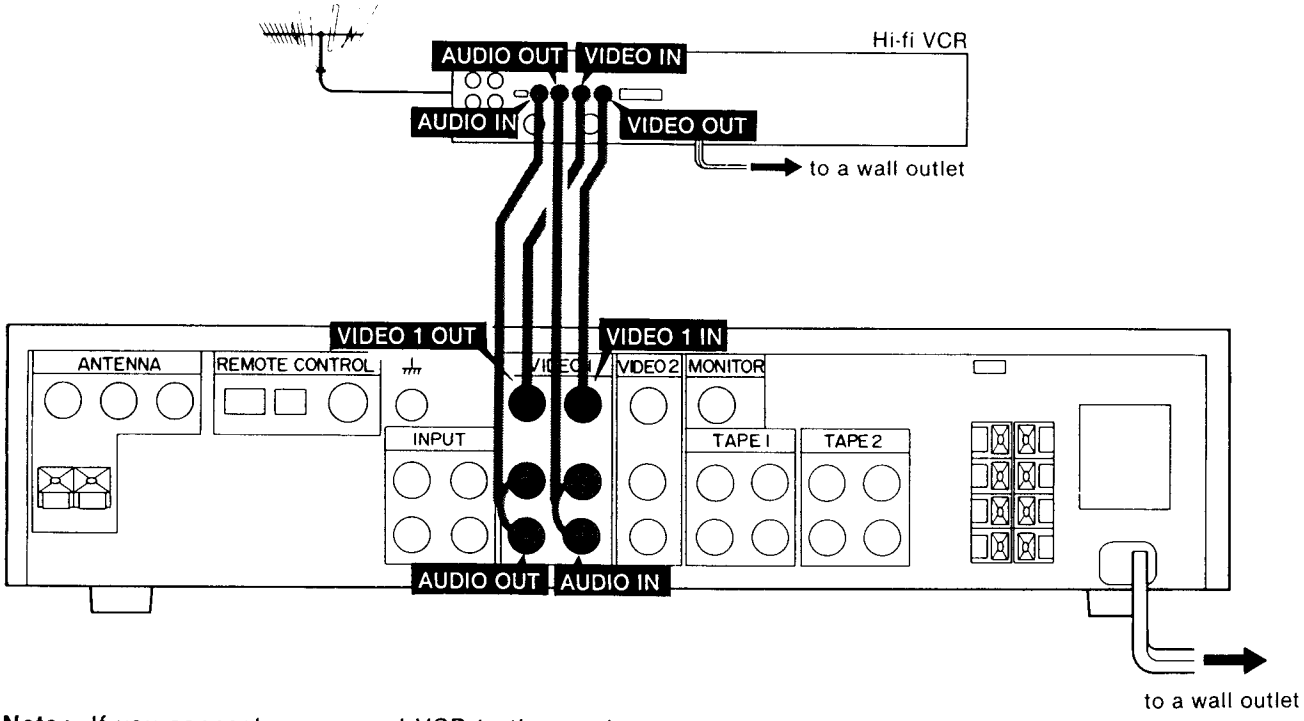


Hi-fi VCR + Conventional TV



MONAURAL VCR CONNECTION

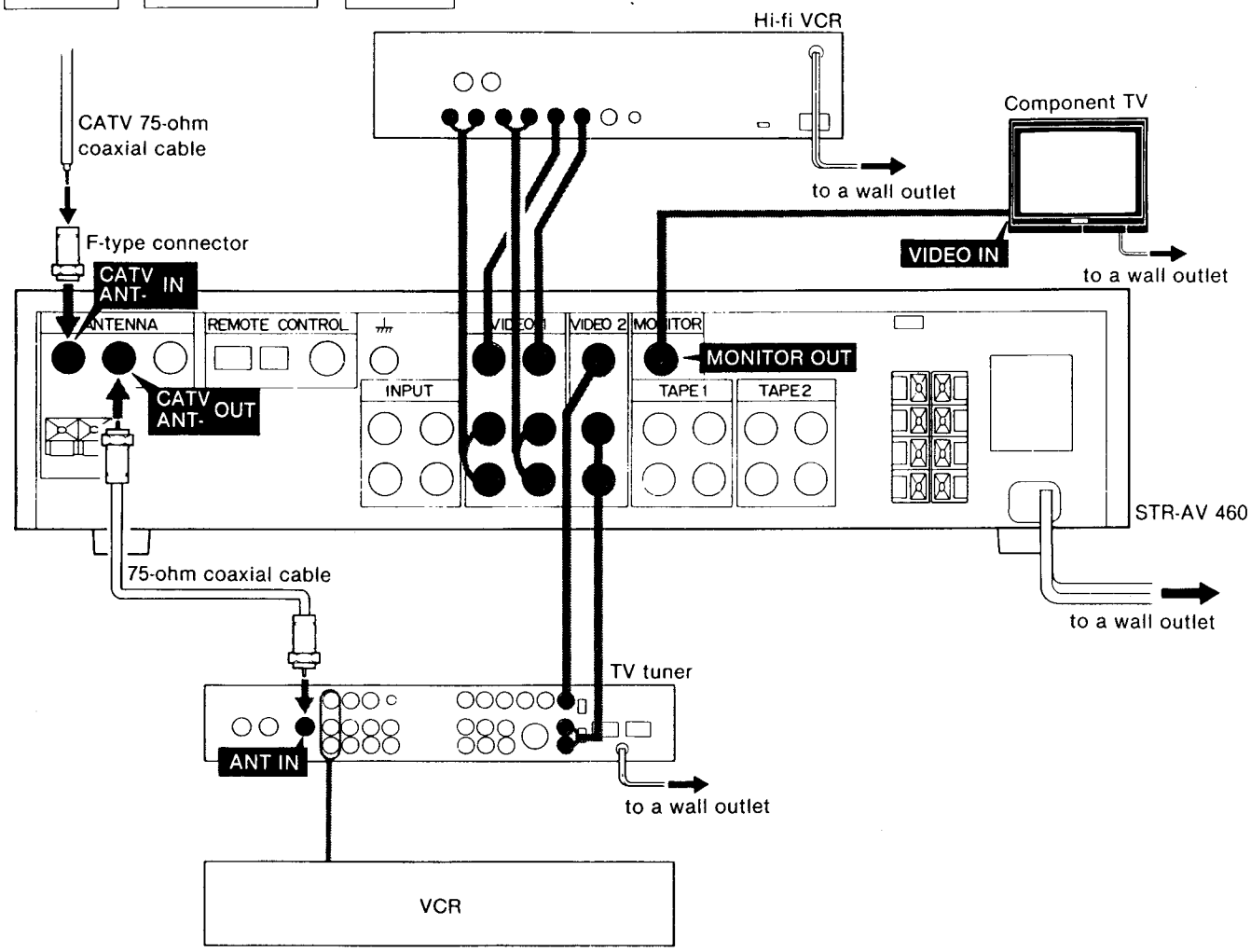
Connect it as follows, using the RK-G105 connecting cords for audio signal connection. Refer to the diagrams indicated before on the other connection.



Note: If you connect a monaural VCR to the receiver and record an audio program source on a video tape or edit from a VCR 2 to a VCR 1, it may happen that stereo separation of the program source heard from the speakers will be worsened.

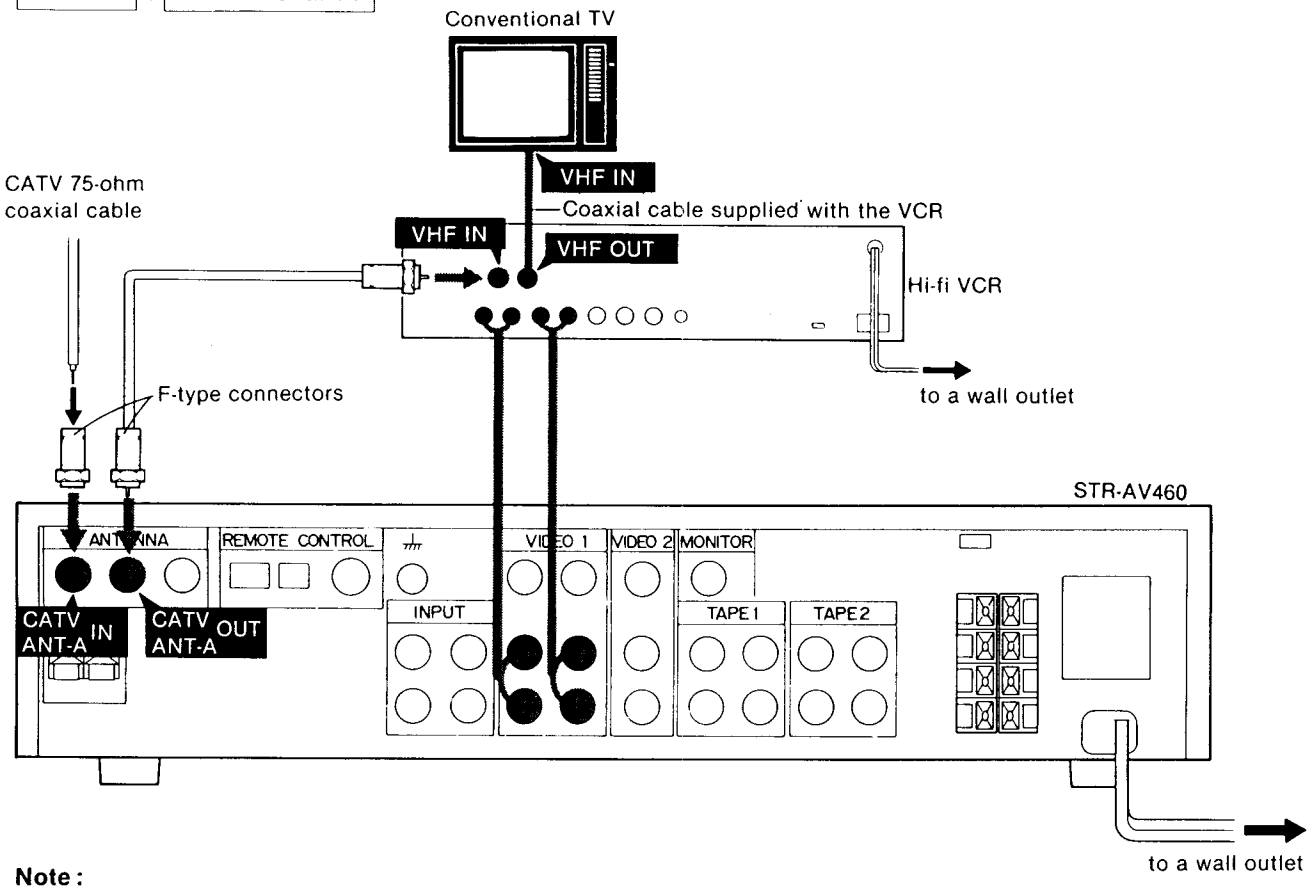
CATV SYSTEM CONNECTION

Hi-fi VCR + **Component TV** + **TV tuner**



For connecting an F-type antenna connector, see page 14.

Hi-fi VCR + **Conventional TV**



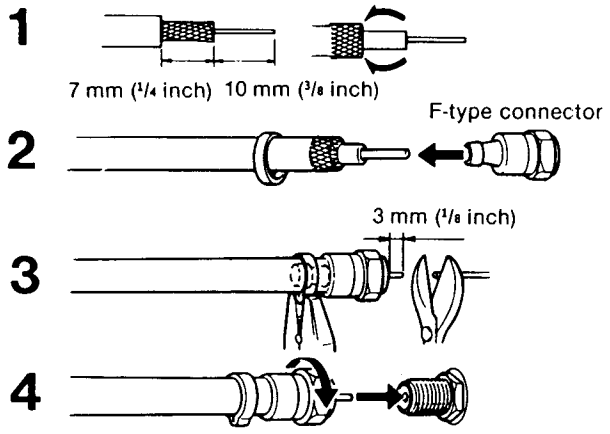
Note:
When noise appears in the TV display because of poor reception, use an antenna booster for better reception.

ANTENNA CONNECTION

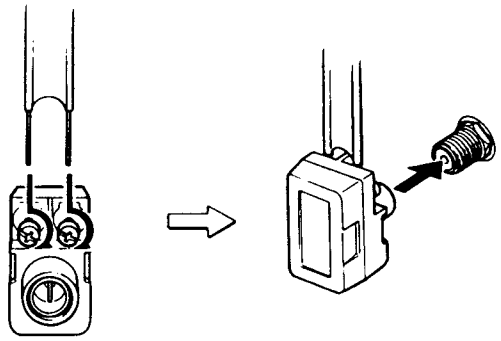
FM ANTENNA CONNECTION

To get the optimum sound of FM broadcasts, install a suitable outdoor FM antenna.
The supplied ribbon antenna may be useful until you install a more suitable antenna.

75-ohm coaxial cable connection
A 75-ohm coaxial cable is free from external interference, reduces noise pickup, and is the ideal transmission line for most FM installations. 3C-2V cable is recommended.
Connect the 75-ohm coaxial cable using a commercially available F-type connector and connect it to the FM ANT-B connector.



Ribbon antenna supplied (or 300-ohm twinlead) connection
Supplied ribbon antenna or standard 300-ohm twin-lead is susceptible to the pickup of extraneous noise. Connect the ribbon antenna or twinlead to the supplied external antenna connector and connect it to the FM ANT-B connector. Keep the lead as short as possible and avoid running it parallel to other wires or metal pipes. Fully extend the antenna and fasten the ends to a wall using thumbtacks or adhesive tape.



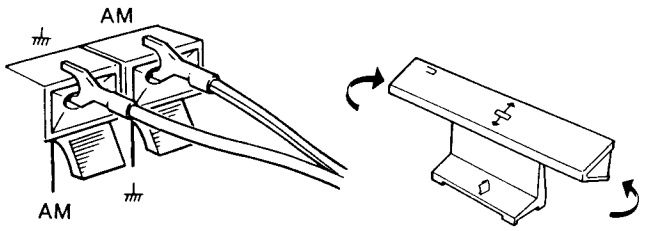
Note: If you have another FM tuner, connect an FM external antenna to the CATV ANT-A IN connector. When it is connected to the IN connector, CATV-ANT-A OUT connector can feed signals to the FM tuner.

Notes on the FM and TV antennas
—When the stereo receiver and video system are connected and both are in use.
We recommend the use of outdoor antennas to obtain better quality picture and sound. Please.....
- Use the outdoor FM antenna for FM reception and the TV antenna for TV reception. Do not use the antenna for both.
- Use 75-ohm coaxial cables for both antennas.
- Locate the two antennas as distant as possible from each other.

If the outdoor antenna installation described above is impossible and if the TV signal strength is weak, FM signals may interfere with the TV picture and sound.
To resolve this problem, press any function select key to change the tuner mode to any other modes.

AM ANTENNA CONNECTION

Supplied layout-free AM external ferrite bar antenna
Always keep the layout-free AM antenna connected to the AM external antenna terminals. Connect the lead-in with the white mark to the ⏚ terminal. AM programs cannot be received without connecting the antenna.
Adjust the position of the layout-free antenna to obtain optimum AM broadcast reception or if a sound beat should be heard while recording an AM program.



This antenna can be placed in various places, such as on a speaker or a desk, or hung on the wall, or on the rear panel of the receiver. For convenience, the antenna lead-ins of the layout-free AM antenna can be wound around the hooks on the rear of the receiver.

ANTENNA GROUND CONNECTION

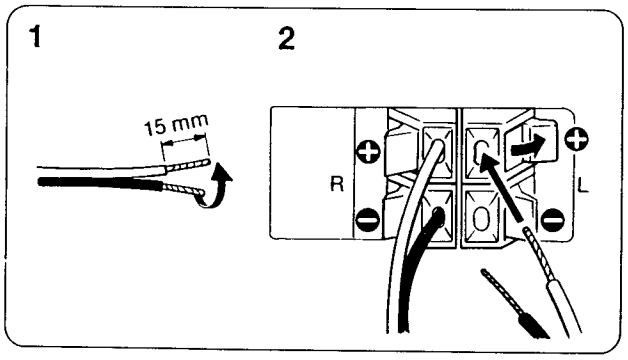
To prevent hum, connect the ground wire to the antenna ground terminal [⏚]. When an outdoor antenna is installed, be sure to connect the ground wire for lightning protection.

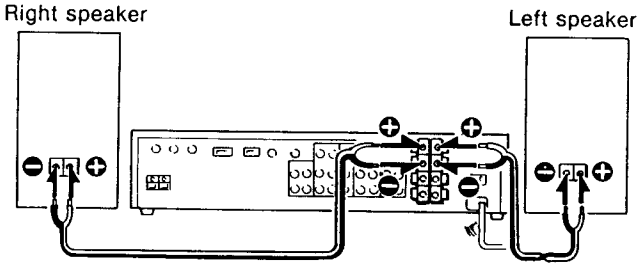
SPEAKER CONNECTION

This receiver has provision for two pairs of speaker systems—system A and system B.
Two speaker systems, A and B, can be selected individually or simultaneously by means of the front panel SPEAKERS selector.
Note that the speaker systems A and B are series-connected. No sound will be heard if only one of the speaker systems is connected and the SPEAKERS selector A and B are depressed.

Speaker impedance and power capacity
This receiver is designed to work best with speakers having nominal impedance from 4 to 16 ohms, and rated at 35 watts minimum RMS per channel with an 8-ohm load from 20 – 20,000 Hz. Be sure to set the SP IMPEDANCE selector appropriately according to the impedance of the speaker systems connected. See page 7.

Speaker cord connection
1 Strip the outer covering and twist the wires.
2 Keep the terminal button depressed and fully insert the wires into the slot, and then release the button. Pull on the speaker cord lightly to see if the connection is secure.





Generally speaker cords are coded with color, or mark, indicating the ⊕ ⊖ polarities. Remember the coding and prevent faulty connections.
Right speaker: to R SPEAKER connectors
Left speaker: to L SPEAKER connectors
⊕ code: for ⊕ connection
⊖ code: for ⊖ connection

POWER SOURCE CONNECTION

Polarity of the ac power cord
A white mark is visible on one lead of the power cord and one plug is larger than the other. This will help you align the ac power cord polarity with the ac outlet polarity in order to operate the receiver and other components in the system "in phase".
The larger plug of the ac power cord of the receiver should be inserted into the negative potential of the polarized ac outlet. This plug cannot be inserted into the unpolarized ac outlet.

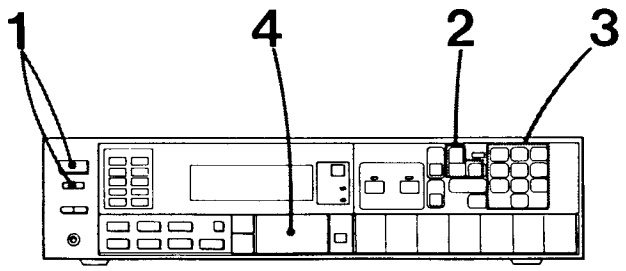
AC outlets
Equipment whose total power consumption is less than 100 watts can be connected to either of these outlets. These SWITCHED outlets are controlled by the front panel MAIN POWER and SYSTEM POWER switches.
The marked plug of the ac power cord of the equipment to be connected should be inserted into the negative potential of the outlet.

Caution
Do not connect any electrical home appliance such as an electric iron, fan, TV, video cassette recorder or other high-wattage equipment to these ac outlets.

TO RECEIVE FM/AM BROADCAST

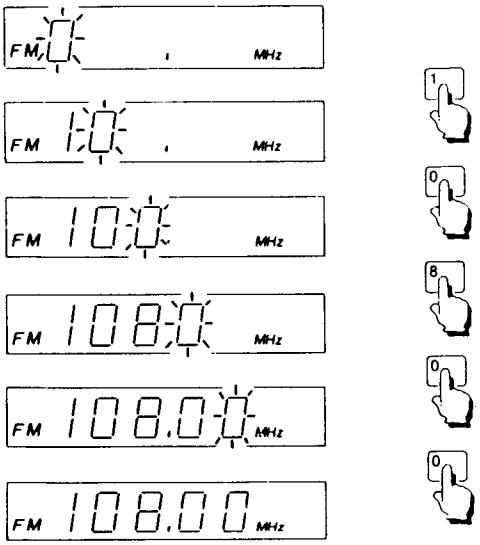
DIRECT ACCESS TUNING

When you know the frequency of the station to be received, input it with the number keys.

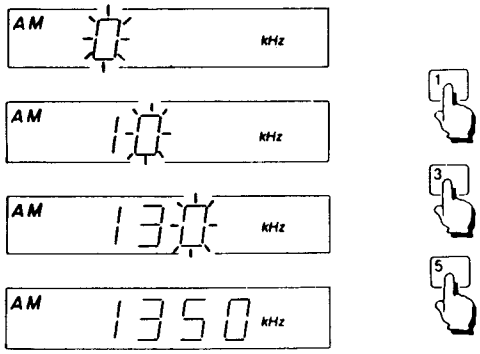


1 Depress the POWER switch and press the SYSTEM POWER switch.
2 Press the FM ANT-A, FM ANT-B or AM key. (The "0" indication will flash.)
3 Input the frequency using the number keys.

Example 1: FM 108.00MHx



Example 2: AM 1350 kHz



4 Adjust the VOLUME control key to your preference.

Notes on AM direct access tuning

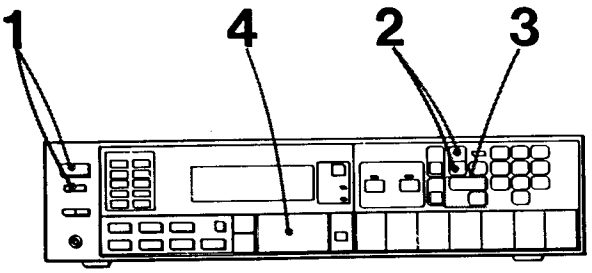
- As the AM tuning interval is preset at the factory to 10 kHz, you need not input the last digit "0" of the frequency when the first two or three digits are input.
- If you change the 10 kHz AM tuning interval to 9 kHz, input the frequency to the last digit. See "How to change the AM tuning interval" on page 3.

If you input a wrong frequency

- Press the appropriate band select key again and input the correct frequency.
- If you input a frequency outside the receiver's frequency range (FM 87.5 to 108 MHz; AM 530 to 1,610 kHz), the figures will flash in the display window. In this case, press the appropriate band select key and input the correct frequency.

SWEEP TUNING (for FM reception)

If you do not know the frequency of the station you want to listen to or if you want to hear what kind of programs are on the air, use this tuning.



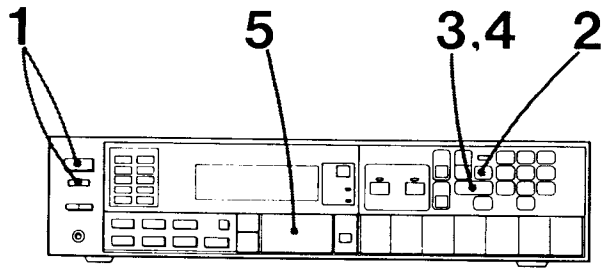
1 Depress the POWER switch and press the SYSTEM POWER switch.
2 Press the FM ANT-A or FM ANT-B key. The "0" indication will appear.
3 Press the "+" or "−" TUNING key.
Scanning will begin and stop automatically for 5 seconds when a station is received. After 5 seconds the scanning will automatically begin again.
To stop the scanning and listen to the station being received, press the MEMORY PRESET key.
4 Adjust the VOLUME control key to your preference.

Note

If the signal strength is weak, the frequency display figures will not stop at the desired frequency. When this happens, adjust the antenna for optimum reception. If the signal strength is still too weak for sweep tuning, tune in the station as described in "DIRECT ACCESS TUNING".

MANUAL TUNING (for AM reception)

If you do not know the frequency of the station you want to listen to, use this tuning.

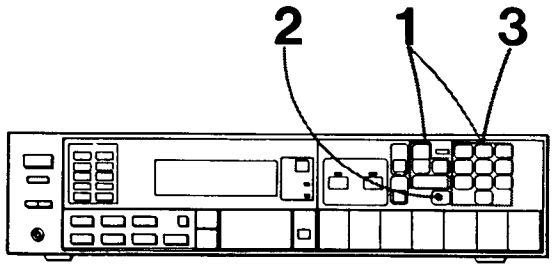


1 Depress the POWER switch and press the SYSTEM POWER switch.
2 Press the AM band select key. The "0" indication will appear.
3 Press the "+" or "–" TUNING key. Each time you press the "+" or "–", the frequency will change by 10 kHz. If you keep the key depressed, the frequency will change continuously.
4 Release the key when a station is received.
5 Adjust the VOLUME control key to your preference.

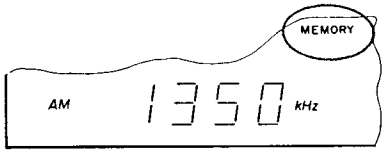
To quickly tune in a roughly known frequency
You can quickly tune in an FM or AM station whose frequency is roughly known by using direct access tuning together with sweep tuning or manual tuning. Input the approximate frequency with the direct access tuning, then press either the "+" or "–" key. For example, if you believe your station is between AM 700 and AM 800 kHz, press AM, input 7 and press the "+" side, or press AM, input 8 and press the "–" side.

MEMORY PRESETTING

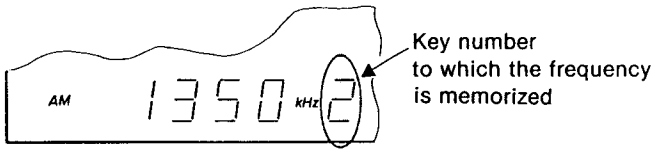
Once the frequencies of the stations you want to tune in are memorized, all you have to do is to press a number key.
A total of 10 stations can be memorized, one to each number key, in any desired sequence.



1 Tune in the desired station following the procedure described in "DIRECT ACCESS TUNING", "SWEEP TUNING" or "MANUAL TUNING".
2 Press the MEMORY PRESET key. The MEMORY indication will appear for a few seconds.



3 While the indication appears, press the desired number key. The MEMORY indication will disappear and the number of the pressed key will be illuminated.



Repeat these steps for each number key.

Notes
- If the MEMORY indication has gone off, the station cannot be preset. Press the MEMORY PRESET key again and proceed to step 3.
- If you preset another station to a key on which you have already preset a station, the first station will be erased. You cannot erase a station without presetting another station.
- If you change the AM tuning interval, the preset station memory will be erased. Memorize stations again.

PRESET TUNING

You can receive a station only by pressing one of the number keys to which the station has been memorized.

Memory of the last station received
This receiver includes a memory circuit to remember the station being received just before the power was turned off. The station will be automatically tuned in when the power is turned on again.

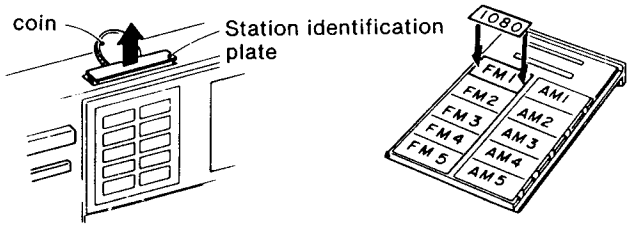
MEMORY SCANNING

This tuning method allows you to quickly hear what kind of programs are being broadcast by the memorized stations. When you press the MEMORY SCAN key, the number of the preset station will flash and the memorized stations are automatically tuned in for several seconds each.

To stop scanning, press the appropriate number key while the station number is flashing.

STATION LABEL INSERTION

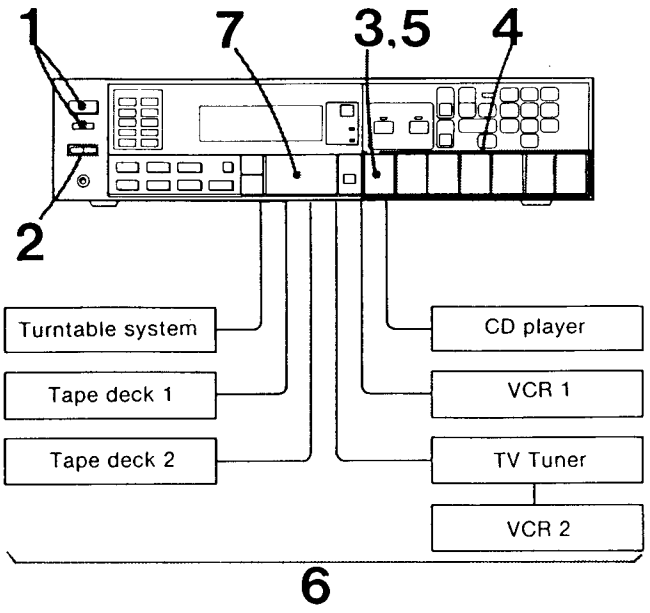
Station labels are supplied to identify the preset stations.
Affix the labels as follows:
1 Pull out the station identification plate.
2 Affix a label to the plate in the appropriate order.



3 Replace the plate.

TO LISTEN TO PROGRAM SOURCES OTHER THAN BROADCASTS

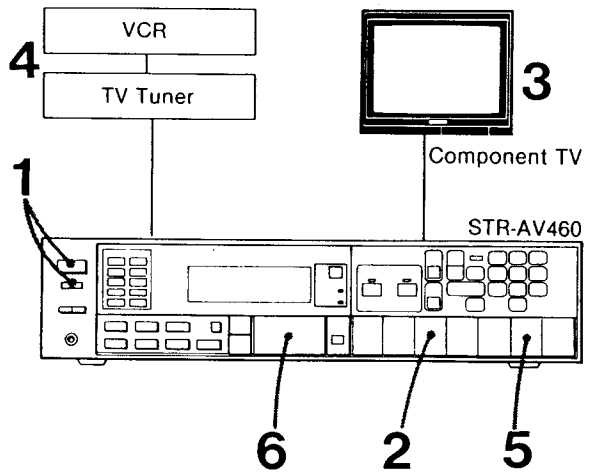
For details on connections, see the connection diagram on pages 8, 9, 10 and 11.



1 Depress the POWER switch and press the SYSTEM POWER switch. Turn on the power of the connected source equipment.
2 Select the speaker system used with the SPEAKERS selector.
To drive speaker system A: depress A button.
To drive speaker system B: depress B button.
To drive both speaker systems: depress A and B buttons.
For headphone listening only: keep both buttons released.
3 If the indicator on the TAPE 2 (MONITOR) key lights up, press this key to disengage it.
4 Press the appropriate function select key.
PHONO: For a record.
CD/AUX: For a CD program or a program from equipment connected to the CD/AUX inputs.
VIDEO 1: For a TV program or a program from the VCR connected to the VIDEO 1 inputs.
VIDEO 2: For a TV program or a program from the VCR connected to the VIDEO 2 inputs.
TAPE 1: For the taped program of a tape deck connected to the TAPE 1 inputs.
5 For the taped program of a tape deck connected to the TAPE 2 inputs, press TAPE 2 (MONITOR) key.
6 Start the program.
7 Adjust the VOLUME control key to your preference.

RECEIVING FM SIMULCAST TV PROGRAMS

By connecting a component TV or TV tuner to the VCR, you can receive FM simulcast TV programs (stereo TV sound transmitted from an FM radio station) while viewing the TV program.



1 Depress the MAIN POWER switch and press the SYSTEM POWER switch.
2 Press the VIDEO 2 key.
3 Turn on the component TV on.
4 Select the desired TV program with the VCR or the TV tuner.
5 Press the TUNER key of the receiver and tune in the FM simulcast TV program.
6 Adjust the VOLUME control key to your preference.

RECEIVING FM SIMULCAST CABLE TV PROGRAMS

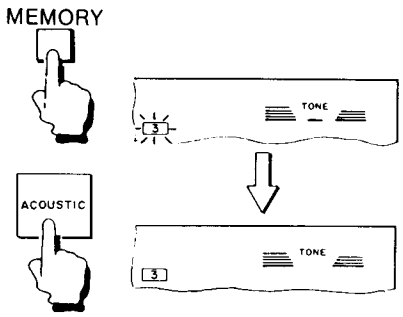
By connecting the CATV cable to this receiver, you can receive FM simulcast cable TV programs while viewing the picture, without using a signal splitter.
For connection, see "CATV system connection" on pages 12 and 13.

1 Depress the MAIN POWER switch and press the SYSTEM POWER switch.
2 Turn on the TV and select the desired CATV program with the VCR or TV tuner.
3 Press the FM ANT-A key of the receiver. The CATV indicatior will light up.
4 Tune in the FM simulcast cable TV program on the receiver.
5 Adjust the VOLUME control key to your preference.

TO SET THE ACOUSTIC SETTINGS

This receiver can store and recall three different tone control settings to easily set the tone controls to match three different types of music.

1 Press the ACOUSTIC key to select the acoustic memory number [1], [2] or [3]. With each press of the key, the number displayed in the window increases.
2 Adjust the tonal quality to your preference. The acoustic memory number will disappear.
3 Press the MEMORY key. While the selected acoustic memory number flashes, press the ACOUSTIC key. Now one of the three acoustic settings is committed to memory.



This receiver retains the contents of the memory even when the power is off, and recall them whenever you want.

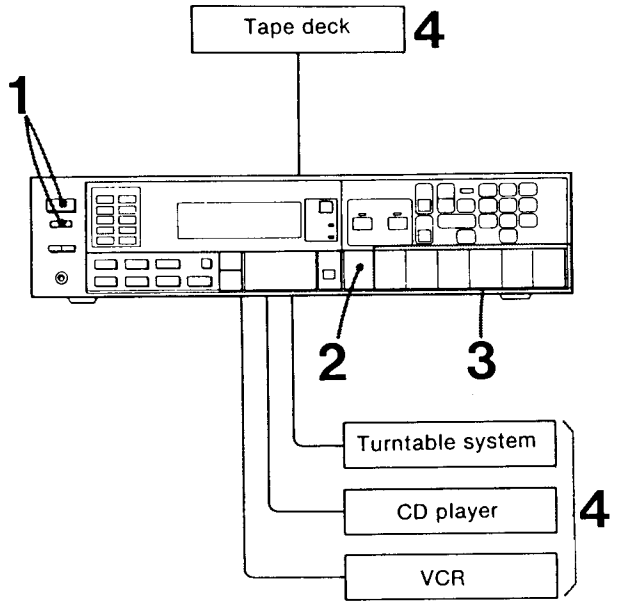
To check the acoustic setting
Once the setting is set, press the FLAT key. All the acoustic settings are disengaged and a flat frequency response results. Then press the ACOUSTIC key to call up the memorized number, so that the original settings will be recalled. Now compare the effect of the settings with the flat frequency response.

To change temporarily a part of the acoustic settings
Simply change the part of the acoustic setting you want. You can recall the original settings later by pressing the ACOUSTIC key.

To change all the acoustic settings
Simply set the new acoustic settings as you like and memorize them as described before.

TO RECORD ON AN AUDIO TAPE

RECORDING

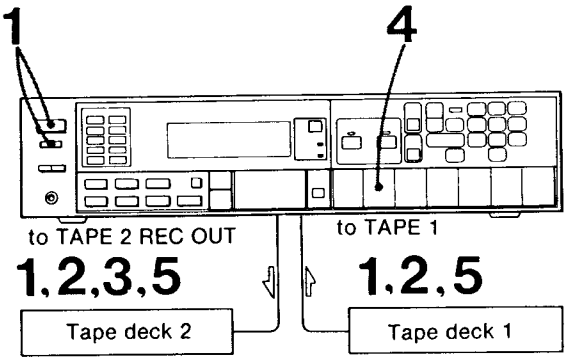


1 Depress the MAIN POWER switch, press the SYSTEM POWER switch of the receiver and turn on the power of the connected tape decks.
2 If the indicator on the TAPE 2 (MONITOR) key lights, press this key to disengage it.
3 Select the desired program source with the function select key.
To select the tuner program, press the desired number key if you have already memorized the stations. If not, tune in the desired station.
4 Start the program source and set the tape deck in the recording mode.

The VOLUME, BASS and TREBLE control keys' setting does not have any affect on the recording.

AUDIO TAPE DUBBING

To dub a tape, you need a tape deck in addition to the deck for recording.
Connect the line outputs of the tape deck for playback to the TAPE 1 TAPE inputs and the line inputs of another deck for recording to the TAPE 2 REC OUT jacks.



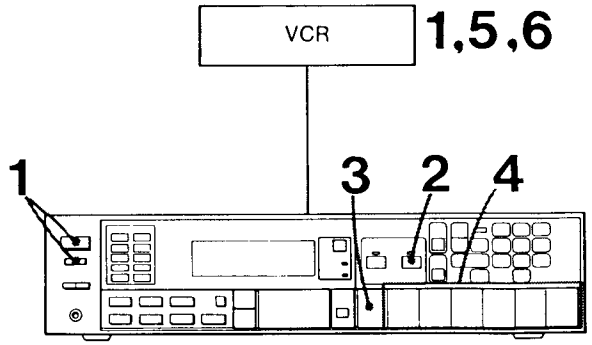
1 Depress the POWER switch, press the SYSTEM POWER switch of the receiver and turn on the power of the connected tape decks.
2 Insert the recorded tape into tape deck 1 and a blank tape into tape deck 2.
3 Adjust the recording level of tape deck 2.
4 Press the TAPE 1 (TAPE 1 → 2).
5 Start the playback of tape deck 1 and set the tape deck 2 in the recording mode. Dubbing will begin.

Note: You cannot dub an audio tape from the tape deck 2 to the tape deck 1.

HI-FI VIDEO RECORDING

For connection, see connection, diagram on page 8.
For operation of the hi-fi VCR, refer to its instruction manual.

RECORDING SOUND ON A VIDEO TAPE



1 Depress the MAIN POWER switch, press the SYSTEM POWER switch of the receiver and turn on the power of a hi-fi VCR.
2 Press the AUDIO key. The indication on this key will light up.
3 Be sure that the TAPE 2 (MONITOR) key is disengaged.
4 Select the desired program source with the function select key.
To choose the tuner program source, press the desired number key if you have already memorized the stations. If not, tune in the desired station.
5 Insert a video cassette into the hi-fi VCR and adjust the recording level.
Set the filter switch of the VCR, if it has one, to ON.
6 Start the program and set the VCR in the recording mode.

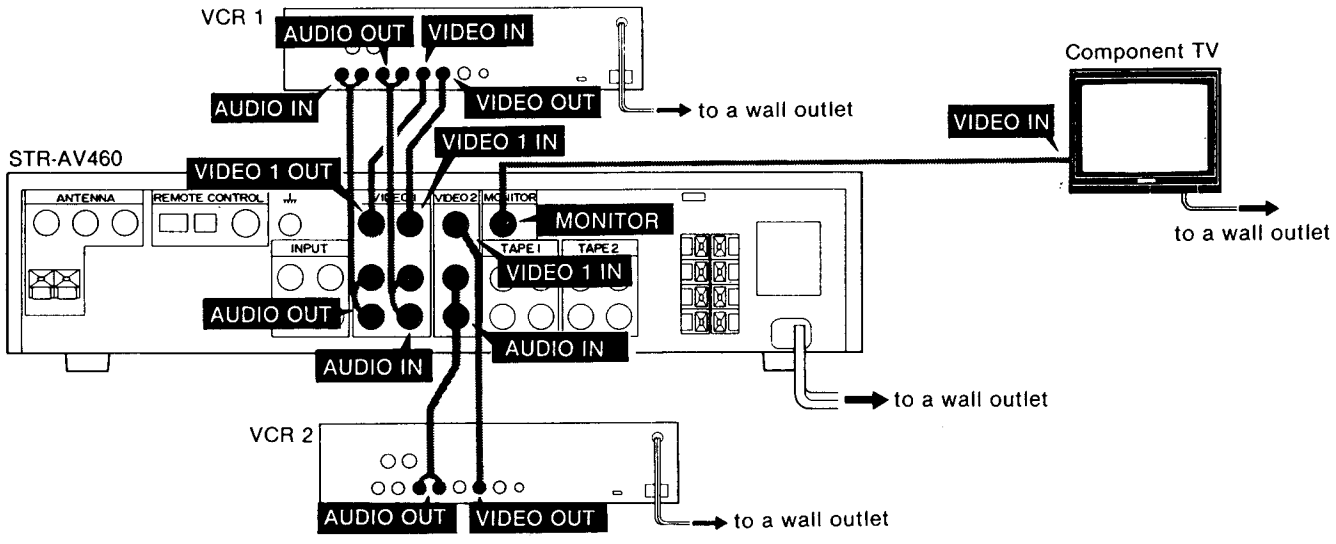
The VOLUME, BASS and TREBLE control keys' setting does not have any affect on the recording.

Note: you cannot record on a VCR connected to VIDEO 2 jacks.

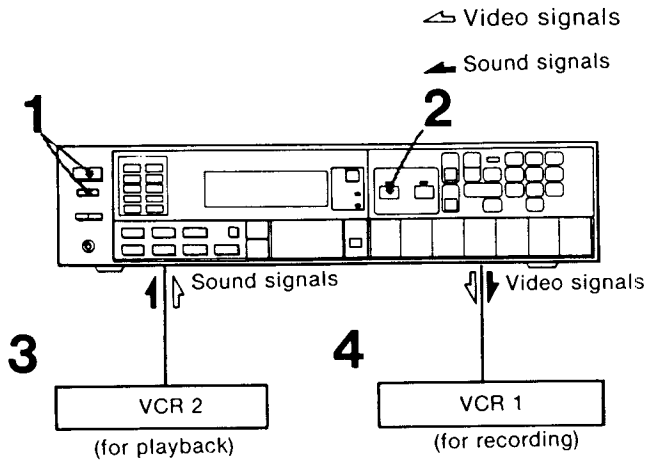
VIDEO TAPE EDITING

To edit a video tape, you need another VCR for playback.

Connection



Operation



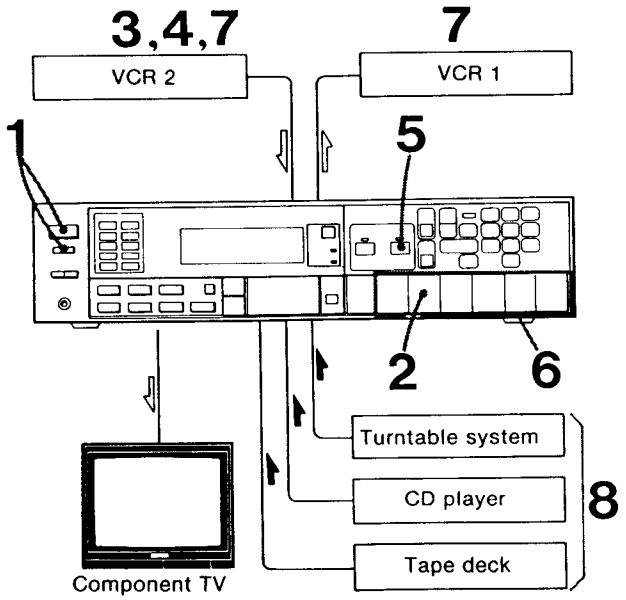
1 Depress the MAIN POWER switch, press the SYSTEM POWER and turn on the connected equipment.
2 Press the VIDEO key. The indicator on this key will light up.
3 Set the VCR 2 in playback mode.
4 Set the VCR 1 in recording mode. Editing will begin.

You can listen to an audio program source while editing a video tape, by pressing any function select key.

Note : You cannot edit a video tape from VCR 1 to VCR 2.

ADDING SOUND ON A VIDEO TAPE WHILE EDITING

During video tape editing, you can add an audio program source, thus making your own personalized video tape. The new sound will be recorded and the previous sound will be erased.



1 Depress the MAIN POWER switch and press the SYSTEM POWER switch.
2 Press the VIDEO 2 key.
3 Insert a recorded video tape into the VCR 2 and set it in playback mode.
4 At the point where audio dubbing is to start, press the ❚❚ PAUSE button on the VCR 2.
5 Press the AUDIO key on the receiver. The indication on this key will light up.
6 Press the desired function select key.
7 Release the pause mode of the VCR 2 and set the VCR 1 in recording mode.
8 Start playing the selected program source.

REMOTE CONTROL OPERATION WITH AN OPTIONAL REMOTE COMMANDER

Using the optional RM-S760 remote commander, you can remotely control power on/off, preset tuning, program selection, volume adjustment, etc. of the receiver and various functions of connected components.

Sony equipment which can be remotely controlled with the RM-S760 :
Turntable systems : PS-LX410, PS-LX500, PS-LX510, PS-FL7, PS-FL9
Cassette decks : TC-FX410. TC-FX510R, TC-FX310, TC-FX705, TC-FX707R, TC-K555ES, TC-K666ES, TC-K333ES, TC-K777ES, TC-W7R and other cassette deck equipped with a Sony standard 4-pin or 5-pin remote control jack
CD players : CDP-111, CDP-302

Before remote control operation, be sure that the system and the remote control cords are connected correctly (See the instruction mannal of the RM-S760) and depress the MAIN POWER switches of the receiver and the connected equipment.

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS

POWER OUTPUT AND TOTAL HARMONIC DISTORTION:

With 8-ohm load, both channels driven, from 20 - 20,000 Hz, rated 45 watts per channel minimum RMS power, with no more than 0.008% total harmonic distortion from 250 milliwatts to rated output.

OTHER SPECIFICATIONS

Amplifier section

Continuous RMS power output
50 watts + 50 watts (8 ohms, at 40 - 20,000 Hz less than 0.02 % total harmonic distortion)
45 watts + 45 watts (4 ohms, at 20 - 20,000 Hz less than 0.02 % total harmonic distortion)

Dynamic headroom
1.4 dB ('78 IHF)

Harmonic distortion
Less than 0.008% at rated output

Intermodulation (IM) distortion
(60 Hz : 7 kHz = 4 : 1) Less than 0.008% at rated output

Frequency response
PHONO : RIAA equalization curve ±0.5 dB
CD/AUX, VIDEO 1, 2 (audio), TAPE 1, 2 : 10 Hz - 70 kHz $^{+0}_{-1}$ dB

Residual noise Less than 70 μV (8 ohms, network A)
Damping factor 40 (8 ohms, 1 kHz)
Inputs

	Sensitivity	Impedance	S/N (weighting network, input level)
PHONO	2.5 mV	50 kilohms	77 dB 75 dB* (A, 2.5 mV)
CD/AUX VIDEO 1,2 (audio) TAPE 1,2	150 mV	50 kilohms	100 dB 80 dB* (A, 150 mV)

* '78 IHF

Outputs
REC OUT 1, 2
Voltage 150 mV
Impedance 10 kilohms
SPEAKER A, B
Accepts speakers of 8 - 16 ohms.
HEADPHONES
Accepts low and high impedance headphones.

Tone controls
BASS
±8 dB at 100 Hz
TREBLE
±8 dB at 10 kHz

SUBSONIC FILTER
6 dB/oct at 15 Hz

Video section

Inputs VIDEO 1, 2 : 1 $V_{p\text{-}p}$, 75 ohms unbalanced
Outputs VIDEO 1, MONITOR VIDEO OUT : 1 $V_{p\text{-}p}$, 75 ohms unbalanced

FM tuner section

Tuning range 87.5 MHz - 108 MHz
Antenna terminals
75 ohms, unbalanced (2)
Intermediate frequency
10.7 MHz

Sensitivity at 50 dB quieting
17.3 dBf, 4 μV (mono)
38.3 dBf, 45 μV (stereo)
Usable sensitivity
11.2 dBf, 2 μV (IHF)
Signal-to-noise ratio
80 dB (mono), 75 dB (stereo)
Harmonic distortion
0.15% (mono), 0.25% (stereo) at 1 kHz
IM distortion 0.15% (mono), 0.25% (stereo)
Separation 45 dB at 1 kHz
Frequency response
30 Hz - 15 kHz $^{+0.5}_{-2}$dB
Selectivity 60 dB at 400 kHz
Capture ratio 1.5 dB
AM suppression ratio
54 dB
Image response ratio
45 dB
IF response ratio
90 dB
Spurious response ratio
70 dB
RF intermodulation
60 dB
Auto-tuning threshold
Approx. 30 dBf

AM tuner section

Tuning range 530 - 1,610 kHz (with the AM tuning interval set at 10 kHz)
531 - 1,602 kHz (with the AM tuning interval set at 9 kHz)
Antenna Layout-free antenna
External antenna terminal
Intermediate frequency
450 kHz
Usable sensitivity
50 dB/m, ferrite-bar antenna (at 1,000 kHz)
100 μV, external antenna (at 1,000 kHz)
Signal-to-noise ratio
54 dB (at 50 mV/m)
Harmonic distortion
0.3% (at 50 mV/m, 400 Hz)
Selectivity 40 dB (10 kHz)

General

System
Tuner section : PLL quartz-locked digital synthesizer system
Preamplifier section : low-noise NF type equalizer amp
Power amplifier section : quasi-complementary SEPP
Power requirements
120 V ac, 60 Hz
Power consumption
120 watts
In standby condition : 5 watts

AC outlets	Two switched (total 100 watts)
Dimensions	Approx. 430 x 105 x 285 mm (w/h/d) (17 x 4 1/4 x 11 3/8 inches) including projecting parts and controls
Weight	Approx. 6.4 kg (14 lbs 2 oz) net Approx. 7.7 kg (17 lbs 0 oz) in shipping carton
Accessories supplied	FM ribbon antenna (1) AM layout-free antenna (1) Station label (1 set) External antenna connector (1)

Design and specifications subject to change without notice.

TROUBLE CHECKS

Should any problem persist after you have made these checks, consult your nearest Sony service facility. Before going through the check list below, first refer back to the connection and operating procedures.

Broadcast programs

STEREO indicator flickers or does not light when receiving stereo programs
- Adjust the antenna or connect an external FM antenna.
- Press the FM MODE key to disengage the stereo mode.

The figures in the display window do not stop at the desired station during sweep tuning
- The signal strength is too weak for sweep tuning. Adjust the antenna for optimum reception or tune in the station with the direct access tuning system.

Tuning cannot be done correctly when the number key is pressed
- Memorize the frequency correctly.

AM station cannot be tuned in
- The AM tuning interval is set incorrectly. Change the tuning interval according to the AM frequency allocation system of your country. (page 3)

Video programs

No video picture
- Check the video connection. (pages 9, 10 and 11)
- Check the function switch setting of the VCR.
- Check that the component TV is turned ON.

No video sound
- Check the video sound connection. (pages 9, 10 and 11)
- Check the function switch setting of the VCR.
- Check the function select keys of the receiver. The VIDEO key (1 or 2) must be pressed.
- Check the volume control of the TV tuner is set to MAX.

Amplifier

No audio
- Check speaker and program source connections.
- Check the settings of the TAPE 2 (MONITOR) and function select keys.
- Check the SPEAKERS selector setting.
- Turn up the volume.

No audio from one channel or unbalanced left and right volume
- Adjust the BALANCE control key.
- Check the speaker and input connections of the inoperative channel.

Abrupt loss of sound from one or both of the speakers* and the PROTECTOR indication flickering in the display window
- Turn off the receiver and check the speaker terminals or speaker cord for a short. If there is no short, consult your nearest Sony dealer.

* This symptom may be caused when the protection circuit activates.

Reversed left and right sound
- Check the speaker connection for proper phasing.

Lack of bass sound or obscure instrument position
- Check the speaker connection.

Severe hum or noise
- Use shielded connecting cords.
- Keep the connecting cords away from transformers or motors and at least 3 meters (10 feet) from TV sets and fluorescent lights.
- If the TV set and audio components are too close together do not use both TV set and audio components at the same time. If both are used at the same time, separate the TV set from the audio components.
- Ground the receiver.
- Make secure connections.
- Wipe the plugs and jacks with a cloth lightly dampened with methanol.

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